

## Claims

- [c1]      An interconnecting device for relaying a voice call and a fax communication of a communication terminal between an analog line and a digital line, the digital line having a bandwidth being controlled by a control apparatus, said interconnecting device comprising:  
a start signal receiving unit for receiving a fax communication start signal from the communication terminal through the analog line, the fax communication start signal indicating a start of the fax communication; and  
a request signal sending unit for requesting of the control apparatus that the bandwidth of the digital line available to said interconnecting device be expanded from in the voice call when said start signal receiving unit receives the fax communication start signal.
  
- [c2]      The interconnecting device according to claim 1, wherein, when said start signal receiving unit receives the fax communication start signal while said interconnecting device relays the voice call of the communication terminal, said request signal sending unit requests that the bandwidth be expanded.
  
- [c3]      The interconnecting device according to claim 1, wherein said start signal receiving unit receives a calling tone (CNG) signal serving as the fax communication start signal from the communication terminal.
  
- [c4]      The interconnecting device according to claim 2, wherein said request signal sending unit requests that the bandwidth be changed from 8 kit/s, 6.3 kit/s, or 5.3 kit/s to 64 kit/s.
  
- [c5]      The interconnecting device according to claim 1, further comprising:  
a signal conversion unit for converting a voice signal received from the communication terminal into a digital signal; and  
a conversion mode determination unit for determining a conversion mode of said signal conversion unit based on whether or not said start signal receiving unit receives the fax communication start signal.
  
- [c6]      The interconnecting device according to claim 5, wherein when said start signal receiving unit receives the fax communication start signal while the

interconnecting device relays the voice call of the communication terminal, said conversion mode determination unit changes the conversion mode of said signal conversion unit to have lower compression rate than in the voice call.

[c7] The interconnecting device according to claim 6, wherein said conversion mode determination unit changes the conversion mode of said signal conversion unit from G.729 or G.723 to G.711.

[c8] An interconnecting device for relaying a voice call and a fax communication from a communication terminal, between an analog line and a digital line, comprising:  
a start signal receiving unit for receiving a fax communication start signal from the communication terminal, the fax communication start signal indicating a start of the fax communication;  
a signal conversion unit for converting a voice signal received from the communication terminal into a digital signal; and  
a conversion mode determination unit for determining a conversion mode of said signal conversion unit based on whether or not said start signal receiving unit receives the fax communication start signal.

[c9] The interconnecting device according to claim 8, wherein, when said start signal receiving unit receives the fax communication start signal while said interconnecting device relays the voice call of the communication terminal, said conversion mode determination unit changes the conversion mode of said signal conversion unit to have a lower compression rate.

[c10] A communication control method of an interconnecting device for relaying a voice call and a fax communication between an analog line and a digital line, comprising:  
receiving a fax communication start signal from a communication terminal through the analog line, the fax communication start signal indicating a start of the fax communication; and  
requesting of a control apparatus for controlling the digital line that a bandwidth of the digital line available to the interconnecting device be expanded from in the voice call when the fax communication start signal is

received in said start signal receiving step.

[c11] A communication control method of an interconnecting device for relaying a voice call and a fax communication between an analog line and a digital line, comprising:  
 receiving a fax communication start signal from a communication terminal for conducting the voice call and the fax communication, said fax communication starting signal indicating a start of the fax communication;  
 converting a voice signal received from the communication terminal into a digital signal; and  
 determining a conversion mode of said signal conversion step based on whether or not the fax communication start signal is received in said start signal receiving step.

[c12] A computer readable recording medium for storing a communication control program intended for an interconnecting device for relaying a voice call and a fax communication between an analog line and a digital line, the communication control program operating said interconnecting device as:  
 start signal receiving means for receiving a fax communication start signal from a communication terminal through the analog line, the fax communication start signal indicating a start of the fax communication; and  
 request signal sending means for requesting of a control apparatus for controlling the digital line that a bandwidth of the digital line available to said interconnecting device be expanded from in the voice call when said start signal receiving means receives the fax communication start signal.

[c13] A computer readable recording medium for storing a communication control program intended for an interconnecting device for relaying a voice call and a fax communication between an analog line and a digital line, the communication control program operating said interconnecting device as:  
 start signal receiving means for receiving a fax communication start signal from a communication terminal for conducting a voice call and a fax communication, the fax communication start signal indicating a start of the fax communication;  
 signal conversion means for converting a voice signal received from the

communication terminal into a digital signal; and  
conversion mode determination means for determining a conversion mode of  
said signal conversion means based on whether or not said start signal  
receiving means receives the fax communication start signal.

[c14] A communication system for conducting a voice call and a fax communication  
of a communication terminal through an analog line and a digital line having a  
bandwidth, comprising:  
an interconnecting device for relaying the voice call and the fax communication  
between an analog line and the digital line; and  
a control apparatus for determining the bandwidth of the digital line available to  
said interconnecting device,  
said interconnecting device including,  
a start signal receiving unit for receiving a fax communication start signal  
through the analog line from the communication terminal, the fax  
communication start signal indicating a start of the fax communication, and  
a request signal sending unit for requesting, when said start signal receiving  
unit receives the fax communication start signal, of said control apparatus for  
controlling the digital line that the bandwidth of the digital line available to said  
interconnecting device be expanded from in the voice call.